FDOT2018.C3D Installation Guide



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FDOT 2018 Civil 3D State Kit – Installation Guide

Note: It is strongly recommended that you read this entire document before you install.

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Installation Overview

What is the FD0T2018.C3D State Kit?

The Florida Department of Transportation (FDOT) has developed CADD Standards for the production, delivery and processing of Florida transportation systems plans. The FDOT Production Support Office | CADD produces a CADD Software Suite "State Kit" to coordinate these Standards for the Department's approved design software, AutoCAD® Civil 3D 2018® (Civil 3D).

The **CADD Manual** containing the CADD Standards may be downloaded from the Production Support Office | CADD website and viewed here:

http://www.fdot.gov/cadd/downloads/publications/CADDManual/default.shtm

Included in the State Kit for Civil 3D:

- Desktop application launch folder 'FDOT2018.C3D'
- Content folder 'FDTO2018.C3D' containing all FDOT software suite application and FDOT resource files
 including but not limited to; Blocks, Pay Item Database, Parts Catalog, Templates, Fonts, Linetypes, Plot
 Support files, Subassemblies, Tool Palettes and Help Documentation.
- Custom FDOT profile 'FDOT2018C3D.arg' and FDOT Ribbon.

System Requirements for FDOT State Kit

The FDOT State Kit for Civil 3D 2018 is a stand-alone workstation configuration for Autodesk AutoCAD Civil 3D 2018. It can be installed alongside the FDOT State Kit for Civil 3D 2012, 2014, 2015 and 2016. There is not a State Kit for Civil 3D 2013.

- Microsoft® Windows® 7 with SP1 (64-bit only).
- Microsoft® Windows 8.1 with Update <u>KB2919355</u>
- Microsoft® Windows 10
- Microsoft Internet Explorer 11.0 (or later)
- Microsoft .NET Framework Version 4.6
- Microsoft Excel® or Microsoft Office® 2013 or higher
- Adobe® Reader 9.5 or greater (Not installed with Civil 3D 2018. <u>Download</u>)
- Autodesk <u>AutoCAD Civil 3D 2018</u> or Autodesk Infrastructure Design Suite 2018

Updates and Service Packs

We recommend AutoCAD Civil 3D 2018 stay current with all available fixes and service packs. The following updates are currently available from Autodesk Knowledge Network Support for AutoCAD Civil 3D Downloads online. Follow installation instructions provided by Autodesk.

Autodesk AutoCAD Civil 3D 2018 Downloads, Objects Enablers and Others:

https://knowledge.autodesk.com/support/autocad-civil-3d/downloads?release=2018

Remember to read the Readme file for regarding the installation and use of these downloads. It is strongly recommended that you read this entire document before updating your product(s).

Note for custom workspace users:

The FDOT Civil 3D State Kit does not create, overwrite or modify **any** '.CUIx' including the user's standard C3D.CUIx. However, it is always advisable to **backup** customized files prior to installing Autodesk Civil 3D service packs and upgrades.

The Autodesk Civil 3D CUI is located here:

C:\Users\USERID\AppData\Roaming\Autodesk\C3D 2018\enu\Support\C3D.CUIx.

Optional and Third Party Applications

Autodesk Subscription Extension Products

AutoCAD Civil 3D® 2018.1 Update 64-Bit (Release Date: 09/30/2017)

This update provides a combination of new capabilities, enhancements to existing capabilities, and general maintenance improvements for Autodesk®, AutoCAD® Civil 3D® 2018 users. New capabilities include the rehab corridor for modeling, assessing, and optimizing roadway rehabilitation proposals and the Infrastructure Parts Editor for the assembly and management of pipe network content. Existing functionality including reference templates, section view crossing/projection drafting, and more have been improved to increase drafting efficiency. Update 1 also includes a number of general maintenance improvements that should be installed by all users.

Third Party Applications

See FDOT Supported Software.

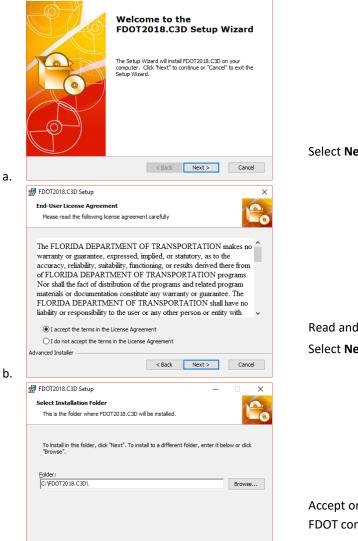
Not all software included in this list has been tested as of time of release.

Important: TIMS Project Navigator is not recommended for use with Civil 3D Projects because it cannot recognize data references.

Installation Steps

FDOT2018.C3D Setup

- 1. Uninstall any previous version of the FDOT C3D 2018 State Kit from the Windows Control Panel. *If applicable. Note: You may use multiple versions of the State Kit together.*
- Link to download State Kit: http://www.fdot.gov/cadd/downloads/software/FDOT2018CaddSoftware.shtm
- 3. Select and SAVE the **FDOT2018.C3D.Workstation.msi** to a local download location first before executing.
- 4. Double-click on download file and install providing prompts for Windows permissions, installation location, and project path location.



< Back Next > Cancel

Select Next to continue

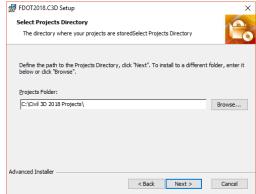
Read and click to accept the EULA.
Select **Next** to continue

Accept or change default installation path for the FDOT content folder 'FDOT2018.C3D'
Select **Next** to continue

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Advanced Installe

c.

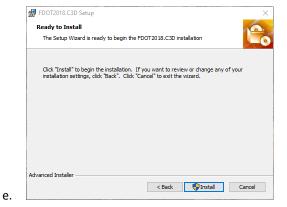


Browse to desired default Projects directory path or accept default.

(This sets a FDOT environment variable for FDOT Applications)

Select Next to continue.

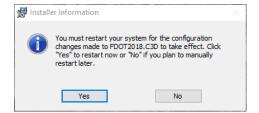
d.



Select Install. Files will be copied to the destination path.



Select **Finish** to complete the installation.



f.

Select **Yes** to restart your computer.

Launch FDOT Civil 3D 2018 State Kit from the installed FDOT2018.C3D desktop shortcut or windows application FDOT2018.C3D group folder.

IMPORTANT: Always launch the State Kit from the FDOT2018.C3D shortcut.

Uninstalling/Reinstalling the FDOT State Kit and AutoCAD Civil 3D

Uninstalling the FDOT2018.C3D State Kit cleanly removes all FDOT installed components.

It is recommended that Civil 3D be maintained up-to-date on all updates for your installation following instructions provided by Autodesk.

It is **not** necessary to uninstall/reinstall the State Kit for Civil 3D update installations.

However, if Civil 3D needs to be reinstalled for any other reason, you need to uninstall the State Kit first.

Silent Installation

The FDOT2018.C3D installations can be completed silently. It will be necessary to provide the values for specific properties in the command line string. These properties will define the values typically entered into the dialogs during a manual installation.

Command line syntax:

Msiexec /i <path to msi> /qn PROPERTY=value PROPERTY=value

You can include multiple properties separated by a space.

NOTES: The name of a property contains only uppercase letters.

The trailing backslash is required for the paths defined.

Client Properties		
APPDIR	Defines the path to the local FDOT2018.C3D directory	
SERV	Defines the path to the FDOT2018.C3D server directory	
PROJ	Defines the path to the AutoCAD Projects directory	
Msiexec /i \\ServerName\SherName\FDOT2018.C3D.Workstation.msi /qn APPDIR=C:\FDOT2018.C3D\ SERV=\\Server\Share\FDOT2018.C3D\ PROJ=C:\Civil 3D Projects\		

Workstation Properties		
APPDIR	Defines the path to the local FDOT2018.C3D directory	
PROJ	Defines the path to the AutoCAD Projects directory	
Msiexec /i \\ServerName\SherName\FDOT2018.C3D.Workstation.msi /qn APPDIR=C:\FDOT2018.C3D\ PROJ=C:\Civil 3D Projects\		

Windows 8 FDOT Help Installation

- 1. In Internet Explorer, click the Tools menu, and then click Internet Options.
- 2. On the Connections tab, click LAN Settings.



- 3. Turn on: "Use automatic configuration script"
- 4. And enter: "http://coisa.dot.state.fl.us/wpad.dat" in the address field.

Installation Notes

FD0T2018.C3D Directory Structure

The installation adds the following directory structure and content: C:\FDOT2018.C3D\

The installation creates a directory \FDOT2018.C3D, where specified, locally or on a server. We recommend the FDOT software be installed at the default directory level on the drive selected. Nearly all of the FDOT programs, content and support files are in this folder.

FDOT Directory Variables	
Apps Directory:	C:\FDOT2018.C3D\APPS\
Apps Utl Directory:	C:\FDOT2018.C3D\APPS\UTL\
Data Directory:	C:\FDOT2018.C3D\Data\
Templates Directory:	C:\FDOT2018.C3D\Data\templates\
Project Template Directory:	C:\FDOT2018.C3D\FDOT Project Template\
Support Directory:	C:\FDOT2018.C3D\Support\
Profile Directory:	C:\FDOT2018.C3D\Support\Profiles\
Plot Directory:	C:\FDOT2018.C3D\Support\Plot\

C:\ProgramData\Autodesk\C3D 2018\enu

The installation adds the remaining FDOT resource support files to Program Data for use by Civil 3D 2018. They include FDOT Subassemblies resource files; .dll files, ATC catalogs, assemblies for tool palettes, imported Subassembly packets and Subassembly help files. Also required in this location are FDOT custom pipe network rule files. Default located content is design criteria standards and survey settings files.

The AutoCAD default is: .\Profiles\FDOT2018C3D\Profile.aws

Environment Variables and Registry Entries

The installation adds the following environment variables:

FDOT2018.C3D.SERVER

This variable points to the location of the FDOT2018.C3D server directory.

FDOT2018.C3D.LOCAL

This variable points to the location of the FDOT2018.C3D directory on the local machine. Specifically points to location of standalone apps.

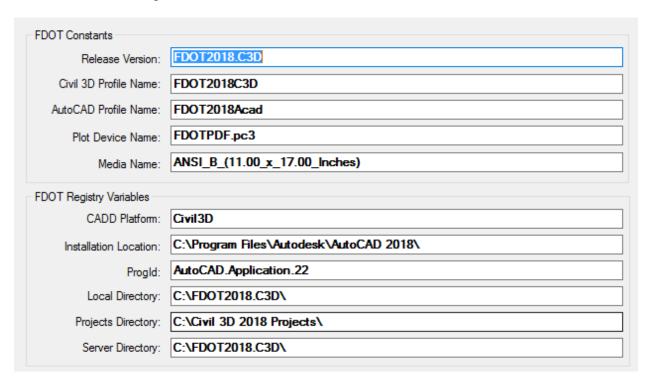
FDOT2018.C3D.PROJECTS

This variable points to the location of the configured projects directory.

The installation adds the following registry entries:

HKEY_LOCAL_MACHINE\SOFTWARE\FDOT\FDOT2018.C3D\FDOT2018.C3D.LOCAL HKEY_LOCAL_MACHINE\SOFTWARE\FDOT\FDOT2018.C3D\FDOT2018.C3D.PROJECTS HKEY_LOCAL_MACHINE\SOFTWARE\FDOT\FDOT2018.C3D\FDOT2018.C3D.SERVER

Other Environment Settings:



FDOT Ribbon Content

F1 Help and Video for FDOT Applications on the FDOT Ribbon are available in the State Kit.



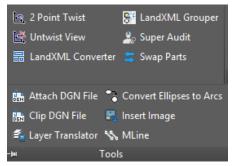
Create File



Create File

Launches the Create File application so the user can automatically create new drawings based on FDOT standards into project structure. Chooses the correct template per selected FDOT Sheet type then assigns standard name. Saves and opens new file.

Tools



2 Point Twist

Rotates the view to the angle defined between two selected points.

Untwist View

Returns the view to its original angle of rotation.

LandXML Converter

Converts EFB outputted LandXML data onto file formats for CAiCE and GEOPACK and Grouped LandXML.

LandXML Grouper

Organizes LandXML data into points and feature chain LandXML groups using custom filters.

Super Audit

Runs an AutoCAD Audit and Purges unregistered apps.

Swap Parts

For drawings containing Drainage Networks, Swap parts is used to swap Multiple Structures and/or Pipes.

Attach DGN File

Attaches a DGN file as an XREF.

Clip DGN File

Clips a DGN reference to desired shape.

Convert Ellipse to Arc

Converts Ellipses to Arcs. Used for correcting geometry types for AutoCAD use.

Insert Image

Inserts a vector correlated raster image file.

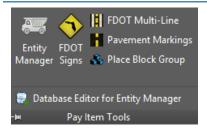
Layer Translator

Used to update layers between active drawing and a source drawing template file.

Mline

Draws AutoCAD Multi Linetypes.

Pay Item Tools



Entity Manager

Entity Manager is an automation tool for Civil 3D used to place objects in the drawing at the proper symbology with attached pay item data appropriate for the object and drawing type.

FDOT Signs

Creates a sign assembly with pay item including the sign panel post, any foundation or breakaway base of single and multiple panels.

FDOT Multi-Line

Automates the placement of multiple lines through the creation of a pattern with attached pay item data.

Pavement Markings

Automates the design and placement of Gore, Island and Land Striping.

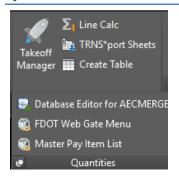
Place Block Group

Inserts a pay item block in groups directionally along entities (alignment) with pay items assigned.

Database Editor for Entity Manager

Edits the custom Pay Item Database file utilized by Entity Manager for Compute Method, Adhocs Data, ID and graphical data.

Quantities



FDOT Takeoff Manager

FDOT Takeoff Manager is an automation tool for Civil 3D used to extract pay item quantities from the plan sheets for placement in the tabulation of quantity sheets.

Line Calc

The line calculator can select segments of Lines, Arcs, and Polylines to generate a cumulative total length that can be exported to Excel or inserted into the drawing as a Table.

TRNS*port Sheets

Inserts CES .xml reports exported from the TRNS*port program as a table (lines and text) inside of a required summary of pay item sheet layout.

Table

AutoCAD Command: TABLE - Creates and inserts an empty table object into the current drawing.

Database Editor for AECMERGE

Edits the AECMERGE Pay Item Database.

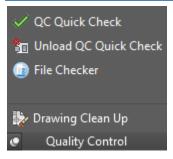
FDOT Web Gate Menu

Link to the FDOT AASHTOWare Project Web Interfaces.

Master Pay Item List

Link to the FDOT Basis of Estimates and Pay Item Information website which contains a link to the current Master Pay Items List PDF.

Quality Control



QC Quick Check

Generates a QC (Quality Control) non-compliance check list for interactive corrections.

Unload Quick Check

Unloads QC Checker to stop compliance scans when drawing is closed.

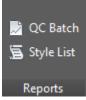
File Checker

This application is used to find duplicate files for removal in a FDOT Project.

Drawing Clean Up

Performs multiple entity cleanup operations on a drawing file.

Reports



QC Batch

Batch checks drawing files for compliance and generates a report.

Style List

Creates a list of Styles found in the current drawing.

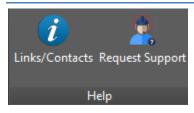
GeoTech



BoreHole

Used to place Borehole symbols and data read from an Excel spreadsheet into Plan and/or Section Views.

Help



Links/Contacts

Lists online resources and information to get support.

Request Support

Allows users to submit a service request ticket to the Productions Support Office | CADD Department.

FDOT Standalone Applications

Create File



Application Folder FDOT Ribbon – Create File Panel CreateFile.exe Author: Michael Robertson

Description:

Creates folders, copies and renames 3D data to organize project 3D and LandXML deliverables. Streamlines for the designer an easy method to copy/rename 3D Deliverables data from various locations in the project a special folder, 3DDeliverables existing or created in the project template. Any preparation needed to insure the integrity of the data is left up to the user. This is utilized prior to the delivery of design data.

Create Project



Application Folder CreateProjectC3D.exe Author: Andrew Fuller

Description:

This application creates an FDOT Civil 3D Project. It can setup the appropriate directory structure and its corresponding sub-directory and the other required component's specific to Civil 3D. Civil 3D must be shut down in order for this application to run.

FDOT XML Signing



Application Folder FDOTXMLSigning.exe

Author: Ray L'Amoreaux

Description:

Digitally signs and verifies XML Data. It is a simple implementation of XML digital signature based on the W3C Specification 1.0. The application is only intended to apply a single digital signature per file. Multiple files may be signed in a single operation. Verification of signed files may be done as a batch operation. Comments may be modified or be added to the XML after the file has been signed, and the signature will still be verified as authentic.

File Checker C3D



Application Folder FileCheckerC3D

Author: Ray L'Amoreaux

Description:

Application checks files across a project to flag for folder and file inconstancies not allowed by CADD Standard, such as file name duplication for project delivery. It generates a report for the user's clean-up prior to delivery.

LandXML Converter



Application Folder LandXMLGrouper.exe Author: Ray L'Amoreaux

Author: Ray L'Amoreaux

Author: Ray L'Amoreaux

Description:

Converts LandXML data output from EFB to CAiCE and GEOPAK input data. The application can be called from the command line to automatically process data. The Office of Surveying and Mapping includes this application in their workflow for processing EFB data. If executed without parameters, the application interacts with the user through a form. Given EFB LandXML input data the converter outputs the following geometry file formats: SRV, KCP, INP and XML representing CAiCE SRV data, CAiCE KCP data, GEOPAK input data, and LandXML Grouped Output. A log provides information on data processing status. The grouped output is ordered by various criteria including point code, name, role or zone.

LandXML Grouper



Application Folder LandXMLGrouper.exe

Description:

The LandXML Grouper reads survey data from the EFB (Electronic Field Book) allowing users to create groups of points, chains, and pipe networks based on a variety of search filters. A set of standard filters is provided and accessible through the application. New filters and modifications can be saved for later use as XML data (FDOTGroupSetting.xml). Imports LandXML survey data from the EFB (Electronic Field Book) into the application for use as the basis for source points and groups. Once survey data is read and search criteria is selected, use this option to create a point group, chain group, or pipe network. The filtered group is then added to the output tree view. Groups can then be renamed or removed as needed. Finally the application saves the output data, formatted to AutoCAD Civil 3D standards, to a LandXML file.

LANDXML VISUALIZER



Application Folder LandXML Visualizer.exe

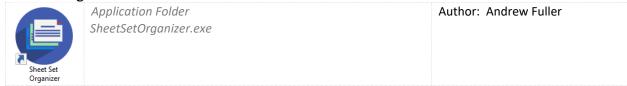
Land XML

axivit visualizer.exe

Description:

Provides a visual representation of various types of LandXML data. Examples of input types are from: GEOPAK, KC, Electronic Field book, Civil 3D and any LandXML data that adheres to the LandXML-1.2 standard (and prior). There are limitations on processing some types of data. The following types of data are processed: Surfaces, CgPoints, Parcels, horizontal and vertical Alignments, Cross Sections, Pipe Networks, and Plan Features. There are 3 primary displays that include: Plan View for displaying surfaces including elevation and slope vectors, contours, alignments and point data; Profile View for displaying multiple vertical Profile data; and Section View for display of Cross Section and Design Cross Section data that can be linked to the appropriate vertical alignment. Each view provides the capability to turn on/off sections of data (using a hierarchal tree view control), zooming and positioning controls, measurement and precision elevation displays. A log view provides status and debug information.

Sheet Set Organizer



Description:

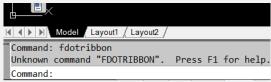
Sheet Set Organizer (SSO) is an application that interacts with AutoCAD Sheet Set Manager (SSM) to provide comprehensive management of the Sheets Sets (.DST files) that also comprises of complete plans sets. When a project is opened with Sheet Set Organizer, that project directory structure is searched for .DST files and all of the drawing files and layouts referenced in those DST files are rolled up into a single Sheet Set Organizer vista.

Troubleshooting\F.A.Q.

Removing the FDOT C3D Profile using the FDOT Profile Scrubber

NOTE: This process, removing the FDOT C3D Profile, does not affect other AutoCAD user profiles or customization. You do not have to reinstall the State Kit after running this utility. For additional information, see application's Readme.txt installed at C:\FDOT2018.C3D\APPS\Support\ProfileScrubber\.

Issue: If FDOT2018C3D.arg fails to load properly on first launch of FDOT Civil 3D, you may see the following messages.



This can occur when prior profiles with the **same name** stored in the registry are preventing the new .arg file to be loaded. Clearing those paths allows Civil 3D to force a fresh re-read of the .arg file.

The profiles are cleared in the CURRENT user's AppData folder:

C:\Users\USERID\AppData\Roaming\Autodesk\C3D 2018\enu\Support\Profiles\FDOT2018C3D. A registry entry is also made in the registry at:

HKEY CURRENT USER\Software\Autodesk\AutoCAD\R20.0\ACAD-A000:409\Profiles\FDOT2018C3D

- 1. Close Civil 3D.
- Using Windows Explorer, navigate to the FDOT Profile Scrubber Utility:
 X:\FDOT2018.C3D\APPS\Support\ProfileScrubber\ where 'X' is the installed drive.
- Select and run the executable FDOTProfileScrubber.exe (Requires Admin Rights)
 (Optional) Select and run the executable FDOTUserProfileScrubber.exe (No Admin Rights Required, for users)
- Scrub What? Choose from menu and select Scrub.
 Administrators should use All Users. All others should choose Current User.



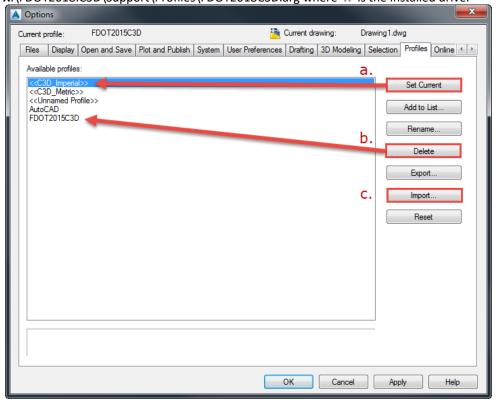
5. Select **OK** when process finished.



Reimporting the FDOT Civil 3D Profile - Manual Method

Issue: If the FDOT Civil 3D State Kit launches without error but the Civil 3D Workspace with its ribbon does not load, manually reload the FDOT Civil 3D Profile through AutoCAD. This will also correct most Workspace issues that are not corrected by re-launching from the State Kit Shortcut.

- 1. Command: **Options** > Profile Tab (see image below)
 - a. Click to select another profile from 'Available profiles' list and then select 'Set Current'
 - b. Select and Delete the FDOT2018C3D profile
 - c. Import the installed FDOT Civil 3D Profile file 'FDOT2018C3D.arg' from:
 X:\FDOT2018.C3D\Support\Profiles\FDOT2018C3D.arg where 'X' is the installed drive.

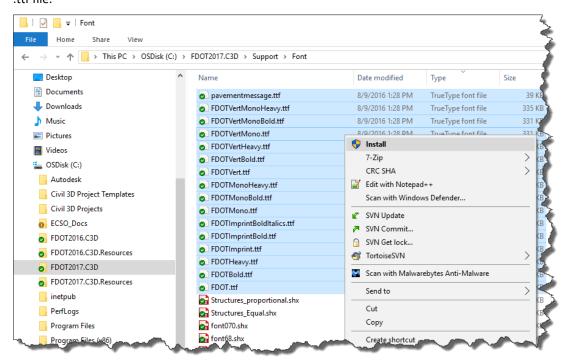


- 2. **OK** to accept and reload Profile into registry.
- 3. Command Line: FDOT Ribbon.

Missing FDOT Windows Fonts

Issue: The uninstallation of FDOT software suites for AutoCAD Civil 3D removes the installed FDOT Windows fonts that are used for both platforms. The only solution available is to inform the end-user to reinstall Windows fonts using the steps outlined below.

- 1. Launch Windows explorer and browse to the C:\FDOT20##.C3D\Support\Font folder.
- 2. Select all the .ttf files by holding down the shift key, click on the first file in the list and then select the last .ttf file.



- 3. Right-click and choose Install.
- 4. In the Install Font dialog box, check **Do this for all current items** and click **Yes**.



Create Project Fails to Complete Process

Issue: After completing the Create Project process an error is displayed warning the user that the process could not complete.

To resolve this, FDOT Civil 3D State kit must be launched at least one time after the PC/Workstation or Laptop has been booted up or restarted. This allows the appropriate files to be written to the user Windows registry in order for the Create Project application to run completely.

FDOT Civil 3D State Kit/ Civil 3D must be shut down in order for this application to run.